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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/510,079 | 09/30/2004 | Chin-Hsi Lin | JCLA9994 | 4206 |
| 23900 | 7590 | 06/24/2005 | | EXAMINER |
| J C PATENTS, INC. 4 VENTURE, SUITE 250 IRVINE, CA 92618 | | | NGUYEN, VAN THU T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2824 | |

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|---------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/510,079 | LIN, CHIN-HSI |
| Examiner | Art Unit | |
| VanThu Nguyen | 2824 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 May 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 4-17 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 September 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Groups I-VI, claims 1-14, in the reply filed on May 24, 2005 is acknowledged. The traversal is on the ground(s) that Group I, III, IV, and V should be considered as the same invention, Groups II makes the invention be more complete with reference element added, Group VI is a special layout with respect to Group I. This is not found persuasive because of the following reasons:

Group I, claims 1-3 draw to different sensing, classified in class 365, subclass 207

Group II, claims 4-5, drawn to reference elements, classified in class 365, subclass 210

Group III, claims 6-8, drawn to segregated column, classified in class 365, subclass 185.06

Group IV, claims 9-11, drawn to plurality of blocks/banks, classified in class 365, subclass 185.11

Group V, claims 12-14, drawn to folded scheme, classified in class 365, subclass 230.03

Group VI, claims 15-17, drawn to read only memory (ROM), classified in 365, subclass

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Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and fields of search, restriction for examination purposes as indicated is proper. Furthermore, none of the Groups II-VI has the limitation of "when one array bank is decoded, the other one array bank serving as a reference array" as in claim 1 of Group I.

The requirement is still deemed proper and is therefore made FINAL.

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2. Claims 1-3 are present for examination.
3. Claims 4-17 are withdrawn from further consideration.

Drawings

4. Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

See Specification, page 10, line 15, for reason why Figure 6 should have --Prior Art-- label.

5. The drawings are objected to under 37 CFR 1.83(a) because they fail to show features described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

FIG. 11 does not show designated numbers 410 and 412 described in Specification.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Lowrey et al. (U.S. Patent No. 6,608,773).

Regarding claim 1, Lowrey discloses, in FIG. 6A, a layout of a nonvolatile memory structure (see column 1, lines 10-13), comprising:

a plurality of memory array banks (banks 510A and 510B); and
a plurality of double-ended sense amplifiers (SA1 to SA4), wherein each of the double-ended sense amplifiers is implemented between two of the memory array banks for sharing use, wherein when one array bank is decoded, the other one array bank serving as a reference array (see column 14, lines 16-21).

Regarding claim 2, it is noted that the banks 510A and 510B in Lowrey can be considered as one dual bank, with double-ended sense amplifiers implemented in between banks.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowrey in view of Kang (U.S. Patent No. 6,324,090).

Lowrey discloses, as applied in prior rejection of claim 1, all claimed limitations except further limitations as set forth in claim 3.

Regarding claim 3, Kang discloses, in FIG. 11, a predetermined number of the memory array banks (plurality of Cell Arrays in one row) are grouped into one bank unit (e.g. first row of Cell Arrays) for multiple bank units (multiple rows of Cell Arrays), and one of the double-ended sense amplifiers (e.g. pull-up SA 13_1) is implemented between two of the bank units.

Since Lowrey and Kang are both from the same field of endeavor, the purpose disclosed by Kang would have been recognized in the pertinent art of Lowrey.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to share sense amplifiers between memory banks in order to reduce and save the area occupied by logic circuit (e.g. additional sense amplifiers) for memory circuit.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Numata et al. (U.S. Patent 6,462,982) teach, in FIG. 3, all limitations in claims 1-2.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881. The examiner can normally be reached on Monday-Friday, 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 20, 2005

VanThu Nguyen
VanThu Nguyen
Primary Examiner
Art Unit 2824